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The short exposure photographs of the comet's head obtained with the Crossley reflector on these dates will afford data for a more accurate study of these phenomena.

Watch was kept by the writer of the appearance of the comet's tail in the morning sky up to and including Saturday morning, May 21st. The tail extended to the Milky Way in *Aquila* on several mornings, but on no occasion could I see it beyond the Milky Way. On the morning of the 18th it was very bright, on the morning of the 19th the axis lay somewhat farther to the north, and the tail was fainter, though still very prominent, and to the south of it could faintly be seen the cone of the zodiacal light. On the morning of the 20th (civil time) the tail was still visible, being roughly about one third as bright as on the preceding day, but still distinctly brighter than the zodiacal light. It could readily be followed from the horizon to the Milky Way. On the morning of the 21st, however, no trace of it could be seen, though careful watch was kept from the time the Moon entered the deep haze on the western horizon until the Milky Way faded in the dawn. On the evening of the 19th of May a faint orange glow in the western sky, extending for a short distance from the position of the comet's head away from the Sun, marked the position of the comet's tail, and on the 20th, in spite of the bright moonlight, the tail could be traced distinctly for fully ten degrees.

R. G. AITKEN.

June 2, 1910.

#### SPECTROGRAPHIC ORBIT OF $\beta$ CAPRICORNI.

The orbit of the spectroscopic binary  $\beta$  *Capricorni* ( $\alpha = 20^h 15^m.4$ ,  $\delta = -15^\circ 5'$ ) has been computed from plates obtained at the Lick Observatory with the Mills three-prism spectrograph and 36-inch equatorial.

The spectrum is given as composite in the Harvard classification, but only the brighter component is recorded on these plates. It is approximately solar type. Forty-five observations were used.

The preliminary elements were found by plotting the observations, reduced to one cycle, and applying well-known graphical methods. They were corrected by trial and error. The

system is interesting because of its long period and large (projected) semi-major axis.

The elements are as follows:—

$$\begin{aligned} V &= 1375.3 \text{ days} \\ T &= \text{J. D. } 2416035 \\ v &= -18.8^{\text{km}} \text{ per second} \\ e &= 0.44 \\ \omega &= 124^{\circ}.0 \\ K &= 22.2^{\text{km}} \text{ per second} \\ a \sin i &= 377,000,000^{\text{km}} \end{aligned}$$

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#### DOUBLE-STAR NOTES.

*Misure di Stelle dopie . . . negli anni 1886-1900 da G. V. SCHIAPARELLI.*<sup>1</sup>—The most important recent contribution to the literature of double-star astronomy is the second volume of SCHIAPARELLI's double-star measures, containing the results of 7,177 measures of 636 systems made with the 18-inch<sup>2</sup> Merz-Repsold refractor of the Milan Observatory in the fifteen years 1886-1900. The earlier volume, of which the author modestly says this is a continuation, was published in 1888, and contained 3,781 measures of 465 systems, the fruit of eleven years' work (1875-1885) with the 8-inch Merz refractor of the same observatory. This simple statement is sufficient to show that few astronomers have made larger contributions to this department of the science, and examination of the new volume will convince anyone that size is in this case a correct indication of value. The observing list was prepared with care, including mainly the more important double stars in the Dorpat and Pulkova catalogues ( $\Sigma$  and  $O\Sigma$  stars), with shorter lists from the discoveries of BURNHAM and HOUGH and a few miscellaneous pairs. Every precaution was taken to avoid or minimize the systematic and accidental errors of observation. In all cases in which the stars were known to be in orbital motion, the measures were repeated year after

<sup>1</sup> The death of this great astronomer on July 4, 1910, is reported in the newspapers.

<sup>2</sup> The Milan refractor is usually referred to as an 18-inch telescope; but the unit is the French inch. In English inches the aperture is 19.17 (= 487mm).